

What is claimed is:

1. A method for finishing a linear edge of a glass sheet comprising:
 - (a) providing a belt assembly which comprises:
 - (i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and
 - (ii) a platen which contacts the belt's inner surface and defines a working zone for the belt;
 - (b) rotating the belt so that in the working zone, the outer surface of the belt moves in a predetermined direction; and
 - (c) finishing said linear edge of the glass sheet by:
 - (i) bringing the outer surface of the belt and the linear edge into contact to form a line segment of contact between the surface and the linear edge, said line segment of contact being in the working zone; and
 - (ii) removing glass from the linear edge by maintaining the linear edge in contact with the surface;
wherein the line segment of contact and the predetermined direction have an included angle of less than 10 degrees.
2. The method of Claim 1 where the included angle is less than 5 degrees.
3. The method of Claim 1 wherein the included angle is essentially zero degrees.
4. The method of Claim 1 wherein during at least a part of step (c), the length of the line segment of contact is at least 90% of the total length of the linear edge.
5. The method of Claim 1 wherein the linear edge is stationary during step (c).
6. The method of Claim 1 wherein the linear edge is vertically oriented during step (c).
7. The method of Claim 1 wherein during step (c) a cooling liquid is applied to the glass sheet and/or the outer surface of the belt in the region of the line segment of contact.
8. The method of Claim 1 wherein the platen is resilient.
9. The method of Claim 1 wherein:

(i) the glass sheet and the working zone each define a plane;
(ii) said planes intersect at a line which contains the line segment of contact;
and

(iii) the plane of the working zone has at least orientations with respect to the plane of the glass sheet during step (c)(ii).

10. The method of Claim 1 wherein:

(i) the working zone has a centerline; and
(ii) during step (c)(ii), the line segment of contact has multiple locations relative to the centerline.

11. The method of Claim 10 wherein said multiple locations comprise locations on either side of the centerline.

12. The method of Claim 1 wherein step (c)(i) comprises moving the platen towards the linear edge of the glass sheet.

13. The method of Claim 12 wherein:

(i) the glass sheet lies in the Y-Z plane of an X,Y,Z coordinate system;
(ii) prior to being contacted by the outer surface of the belt in step (c)(i), the linear edge has an orientation whereby it is either parallel to or at angle to the Z-axis of the X,Y,Z coordinate system; and
(iii) the platen adopts said orientation of the linear edge as the outer surface of the belt comes into contact with the linear edge during step (c)(i).

14. The method of Claim 12 wherein the amount of force with which the outer surface of the belt contacts the linear edge is adjustable.

15. A method for finishing a linear edge of a glass sheet comprising:

(a) providing a belt assembly which comprises:
(i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and
(ii) a platen which contacts the belt's inner surface and defines a working zone for the belt;
(b) rotating the belt; and
(c) finishing said linear edge of the glass sheet by:

(i) bringing the outer surface of the belt and the linear edge into contact to form a line segment of contact between the surface and the linear edge, said line segment of contact being in the working zone; and

(ii) removing glass from the linear edge by maintaining the linear edge in contact with the surface;

wherein:

(i) the glass sheet and the working zone each define a plane;

(ii) said planes intersect at a line which contains the line segment of contact; and

(iii) the plane of the working zone has at least two orientations with respect to the plane of the glass sheet during step (c)(ii).

16. A method for finishing a linear edge of a glass sheet comprising:

(a) providing a belt assembly which comprises:

(i) a rotating belt having an outer surface for removing glass from the linear edge and an inner surface; and

(ii) a platen which contacts the belt's inner surface; and

(b) finishing said linear edge of the glass sheet by:

(i) bringing the outer surface of the belt and the linear edge into contact by moving the platen towards the linear edge; and

(ii) removing glass from the linear edge by maintaining the linear edge in contact with the surface;

wherein:

(i) the glass sheet lies in the Y-Z plane of an X,Y,Z coordinate system;

(ii) prior to being contacted by the outer surface of the belt in step (b)(i), the linear edge has an orientation whereby it is either parallel to or at angle to the Z-axis of the X,Y,Z coordinate system; and

(iii) the platen adopts said orientation of the linear edge as the outer surface of the belt comes into contact with the linear edge during step (b)(i).

17. The method of Claim 16 wherein the amount of force with which the outer surface of the belt contacts the linear edge is adjustable.

18. A method for finishing a linear edge of a glass sheet comprising:

(a) providing a belt assembly which comprises:

(i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and

(ii) a platen which contacts the belt's inner surface and defines a working zone for the belt;

(b) rotating the belt; and

(c) finishing said linear edge of the glass sheet by:

(i) bringing the outer surface of the belt and the linear edge into contact to form a line segment of contact between the surface and the linear edge, said line segment of contact being in the working zone; and

(ii) removing glass from the linear edge by maintaining the linear edge in contact with the surface;

wherein:

(i) the working zone has a centerline; and

(ii) during step (c)(ii), the line segment of contact has multiple locations relative to the centerline.

19. The method of Claim 18 wherein said multiple locations comprise locations on either side of the centerline.

20. Apparatus for use with a glass sheet having a linear edge which is to be finished, said apparatus comprising:

(a) a belt assembly which comprises:

(i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and

(ii) a platen which contacts the belt's inner surface and defines a working zone for the belt;

(b) a belt drive system for rotating the belt so that in the working zone, the outer surface of the belt moves in a predetermined direction; and

(c) a platen drive system for moving the platen towards the linear edge of the glass sheet so as to create a line segment of contact between the outer surface of the belt and the linear edge that forms an included angle with the predetermined direction of less than 10 degrees.

21. The apparatus of Claim 20 wherein the platen is resilient.

22. The apparatus of Claim 20 wherein:

(i) the glass sheet and the working zone each define a plane;
(ii) said planes intersect at a line which contains the line segment of contact;
and

(iii) the platen drive system provides at least two orientations for the plane of the working zone relative to the plane of the glass sheet.

23. The apparatus of Claim 22 wherein the belt drive system comprises rollers and the platen drive system moves both the rollers and the platen.

24. The apparatus of Claim 22 wherein the belt drive system comprises rollers and the platen drive system moves the platen but not the rollers.

25. The apparatus of Claim 20 wherein:

(i) the working zone has a centerline; and
(ii) the platen drive system causes the line segment of contact to have multiple locations relative to the centerline.

26. The apparatus of Claim 20 wherein:
(i) the working zone has a centerline; and
(ii) the belt drive system causes the line segment of contact to have multiple locations relative to the centerline.

27. The apparatus of Claim 26 wherein the belt drive system comprises oscillating rollers.

28. The apparatus of Claim 20 wherein:
(i) the glass sheet lies in the Y-Z plane of an X,Y,Z coordinate system;
(ii) the linear edge has an orientation whereby it is either parallel to or at angle to the Z-axis of the X,Y,Z coordinate system; and
(iii) the platen drive system causes the platen to adopt said orientation of the linear edge as the outer surface of the belt comes into contact with the linear edge.

29. The apparatus of Claim 28 wherein the platen drive system comprises a plurality of air cylinders.

30. Apparatus for use with a glass sheet having a linear edge which is to be finished, said apparatus comprising:

(a) a belt assembly which comprises:
(i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and

- (ii) a platen which contacts the belt's inner surface and defines a working zone for the belt;
- (b) a belt drive system for rotating the belt; and
- (c) a platen drive system for moving the platen towards the linear edge of the glass sheet so as to create a line segment of contact between the outer surface of the belt and the linear edge;
- wherein:
- (i) the glass sheet and the working zone each define a plane;
- (ii) said planes intersect at a line which contains the line segment of contact; and
- (iii) the platen drive system provides at least two orientations for the plane of the working zone relative to the plane of the glass sheet.

31. Apparatus for use with a glass sheet having a linear edge which is to be finished, said apparatus comprising:

- (a) a belt assembly which comprises:
- (i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and
- (ii) a platen which contacts the belt's inner surface and defines a working zone for the belt;
- (b) a belt drive system for rotating the belt; and
- (c) a platen drive system for moving the platen towards the linear edge of the glass sheet so as to create a line segment of contact between the outer surface of the belt and the linear edge;
- wherein:
- (i) the working zone has a centerline; and
- (ii) the platen drive system causes the line segment of contact to have multiple locations relative to the centerline.

32. Apparatus for use with a glass sheet having a linear edge which is to be finished, said apparatus comprising:

- (a) a belt assembly which comprises:
- (i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and

- (ii) a platen which contacts the belt's inner surface and defines a working zone for the belt;
- (b) a belt drive system for rotating the belt; and
- (c) a platen drive system for moving the platen towards the linear edge of the glass sheet so as to create a line segment of contact between the outer surface of the belt and the linear edge;

wherein:

- (i) the working zone has a centerline; and
- (ii) the belt drive system causes the line segment of contact to have multiple locations relative to the centerline.

33. Apparatus for use with a glass sheet having a linear edge which is to be finished, said apparatus comprising:

- (a) a belt assembly which comprises:
- (i) a belt having an outer surface for removing glass from the linear edge and an inner surface; and
- (ii) a platen which contacts the belt's inner surface;
- (b) a belt drive system for rotating the belt; and
- (c) a platen drive system for moving the platen towards the linear edge of the glass sheet to bring the outer surface of the belt into contact with the linear edge;

wherein:

- (i) the glass sheet lies in the Y-Z plane of an X,Y,Z coordinate system;
- (ii) the linear edge of the glass sheet has an orientation whereby it is either parallel to or at angle to the Z-axis of the X,Y,Z, coordinate system; and
- (iii) the platen drive system causes the platen to adopt the orientation of the linear edge as the outer surface of the belt comes into contact with the linear edge.